

What is claimed as the present invention is:

1. An apparatus for generating and annotating maps comprising:
 - 5 means for enabling a computer to query a user for an identifier capable of enabling later retrieval by computer of the data or function which the identifier represents, the identifier comprising a hypertext link address or a non-hypertext link address;
 - 10 means for enabling a computer to store and retrieve from a database said identifiers;
 - means for enabling a computer to arrange said identifiers in arbitrary connected relationships;
 - 15 means for enabling a computer to store and retrieve from a database said relationships;
 - means for enabling a computer to query a user for an annotation to be associated with said identifiers;
 - 20 means for enabling a computer to store and retrieve from a database said annotations to said identifiers;
 - means for enabling a computer to query a user for an annotation to be associated with a relationship between two or more of said identifiers; and
 - 25 means for enabling a computer to store and retrieve from a database said annotations to said relationships.
- 30 2. A computer system apparatus for gathering input for, editing, and accessing a

map and its annotations comprising:

- a) first computer;
- 5 b) a map controller, coupled to the first computer;
- c) one or more databases coupled to said map controller; and
- d) a User Interface coupled to said map controller, preferably by telecommunications link, the user interface capable of displaying a map which comprises;
 - i) nodes which represent information, the nodes having symbols representing links which comprise hypertext links or non-hypertext links to the information, or hypertext links or non-hypertext links to user comments on such information; and
 - ii) connections between two nodes, the connections representing a relationship between the two nodes, the connections having a related symbol representing a link which comprises a hypertext link or a non-hypertext link to a description of the relationship between the two nodes or a hypertext link or non-hypertext link to one or more user comments about the relationship between the two nodes.

25 3. The computer system apparatus according to claim 2, wherein said first computer, said map controller, one or more link target controllers and said user interface are coupled together by a network.

4. The computer system apparatus according to claim 2, wherein said map controller, one or more link targets and said user interface are embodied on a single computer system.

5. The computer system apparatus according to claim 2, wherein said map controller and said user interface may be embodied on a single computer system and coupled together with one or more link targets by a network.

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6. The computer system apparatus according to claim 2, wherein said user interface and one or more link targets are embodied on a single computer system and coupled together with said map controller by a network.

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7. The computer system apparatus according to claim 2 wherein information in said system is accessible from a graphic or textural representation of a node on the user interface.

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8. The computer system apparatus according to claim 2 wherein information in said system is accessible from a graphic or textural representation of a relationship between nodes on the user interface.

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9. The computer system apparatus according to claim 2 further comprising a system for displaying said user comments while providing access to the information with which said user comments are associated.

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10. The computer system apparatus according to claim 2 wherein an intelligent button is used to extract desired information from a content displaying application or from the content displayed and to communicate the extracted information to a receiving computer program.

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11. A computer implemented method for enabling the generation of a collection, referred to herein as a "map", of entity identifiers, referred to herein as "nodes"; comprising the acts of:

capturing a first user input as annotations to connecting relationships

between map nodes;

5 capturing a second user input of identifiers of arbitrary pre-existing information of any type or representation, such second user input to be used in generation of a map node and such identifier being a reference to an addressable entity, wherein the addressable entity may or may not be a hypertext link to an addressable Internet site;

10 capturing a third user input of user-generated information, to which a Map Controller assigns an identifier which is a reference to an addressable entity which may or may not be a hypertext link for subsequent access via a map interface, such third user input to be used in the generation of a map node.

15 12. The method according to claim 11, wherein the captured first, second or third user inputs are generated by a special automated process.

13. The method according to claim 11, wherein each of said entity identifiers can represent arbitrary data types or formats.

20 14. The method according to claim 13, wherein each entity can have arbitrary data types, formats or function.

15. A computer implemented method for managing form entry in an automated manner such that a user does not have to specify which entry fields are available for data entry, wherein data is automatically routed to empty fields and in the circumstance that all entry fields are filled with data, the entry fields containing oldest data are automatically selected for over-writing with new data.

25 30 16. A computer implemented method for displaying circular relationships in data by means of purely textural arrangement, wherein a sequence of relationship

between nodes is indicated by indentation, decoration, or other means until terminated when the sequence arrives again at an initial node, and wherein the initial node is displayed to also be ending cause of the sequence.

5 17. A computer implemented method for accepting user input for creation of relationships between data identifiers wherein said identifiers are each associated with a symbol, said symbol providing a link, the link comprising a hypertext link or other non-hypertext linking information, which upon activation identifies a first data identifier associated with said link, and displays a representation of all data identifiers eligible for connection to the first data identifier, wherein the data identifiers to be connected can be connected one at a time or in multiple data identifiers at a time.

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15 18. A computer program product embodied on a computer readable medium comprising computer program logic for generating and annotating maps comprising:

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 program code means for enabling a computer to query a user for an identifier capable of enabling later retrieval by computer of data or function which the identifier represents, the identifier comprising one or more hypertext link addresses or other non-hypertext linking information;

 program code means for enabling a computer to store and retrieve from a database said identifiers;

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 program code means for enabling a computer to arrange said identifiers in arbitrary connected relationships;

 program code means for enabling a computer to store and retrieve from a database said relationships;

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program code means for enabling a computer to query a user for an annotation to be associated with the relationship between two or more of said identifiers;

5 program code means for enabling a computer to store and retrieve from a database said annotations to relationships;

program code means for enabling a computer to query a user for an annotation to be associated with one or more of said identifiers; and

10 program code means for enabling a computer to store and retrieve from a database said annotations to identifiers.

19. A computer implemented method for enabling the generation of a collection, referred to herein as a "map", of entity identifiers, referred to herein as "nodes"; comprising the acts of:

providing facilities for definition of relationship of any node to any other node or nodes;

20 providing facilities for attaching, editing, and deleting annotations to nodes or to the relationship between nodes;

providing facilities for displaying a map of such nodes and relationships to one or more users;

25 whereby a map of the nodes, relationships and annotations can be constructed and displayed by an individual user or jointly by a plurality of physically separated users.